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what is claimed is:

1. A visiting plan generation method of generating a visiting plan for a plurality of groups to visit a plurality of destinations on a task-sharing basis, comprising the steps of:

inputting at least information on said plural groups, information on members of each of said plural groups, and information on said plural destinations; and

performing optimum formation of said plural groups and optimum destination assignment to each of said plural groups by using a cost function for evaluating said visiting plan.

2. A visiting plan generation method as claimed in claim 1,

wherein at least one of processing operations including minimization processing for minimizing a maximum cost value in said plural groups, minimization processing for minimizing an average cost value in said plural groups, and equalization processing for equalizing cost values in said plural groups is carried out using a cost function for evaluating said visiting plan.

3. A visiting plan generation method as claimed in claim 1 or 2,

wherein, if an unassigned destination is found, new assignment of said unassigned destination and visiting plan re-formation therewith are performed, and as required, re-assignment of already assigned destinations and/or re-arrangement of said plural groups, and visiting plan re-formation therewith are performed.

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4. A visiting plan generation method of generating a visiting plan for a plurality of groups to visit a plurality of destinations on a task-sharing basis, comprising the steps of:

inputting at least information on said plural groups, information on members of each of said plural groups, and information on said plural destinations;

performing optimum formation of said plural groups, optimum destination assignment to each of said plural groups, and optimum planning for each of said plural groups by using a cost function for evaluating said visiting plan when said plural groups visit said plural destinations on a task-sharing basis;

if an unassigned destination is found,
inputting at least information on said unassigned destination, information on said plural groups, and information on members of each of said plural groups; and
performing new assignment of said unassigned destination and visiting plan re-formation therewith using a cost function for evaluating said visiting plan;
as required, performing re-assignment of already assigned destinations and/or re-arrangement of said plural groups, and visiting plan re-formation therewith; and
carrying out at least one of processing operations including minimization processing for minimizing a maximum cost value in said plural groups, minimization processing for minimizing an average cost value in said plural groups, and equalization processing for equalizing cost values in said

plural groups.

5. A visiting plan generation method of generating a visiting plan in which, for a plurality of groups having invariable and/or variable members to visit a plurality of destinations on a task-sharing basis, optimum formation of variable-member groups, optimum destination assignment to said plural groups, and optimum planning for each of said plural groups are accomplished, said visiting plan generation method comprising the steps of:

inputting at least information on said plural destinations, information on said plural groups, and information on members of each of said plural groups;

performing new assignment of unassigned destinations, and visiting plan re-formation therewith using a cost function for evaluating said visiting plan;

as required, performing re-assignment of already assigned destinations and/or re-arrangement of said variable-member groups, and visiting plan re-formation therewith; and

carrying out at least one of processing operations including minimization processing for minimizing a maximum cost value in said plural groups, minimization processing for minimizing an average cost value in said plural groups, and equalization processing for equalizing cost values in said plural groups.

6. A visiting plan generation method as claimed in claim 5,

wherein said information on said destinations contains locations of said destinations, and as required, said

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information on said destinations also contains conditions of
tasks to be performed at said destinations.

7. A visiting plan generation method as claimed in claim
5 or 6,

wherein, in case that information on any of said plural
groups contains attributes of said group, said attributes being
invariable or variable, and group constraints for constraining
members belonging to said group, and that said group is a
variable-member group, data of initial group formation is also
indicated.

8. A visiting plan generation method as claimed in claim
7,

wherein, in case that constraints for any group include
a relationship among members belonging to said group and that
said group is an invariable-member group, data of group
formation is also indicated; and in case that said group is a
variable-member group, the maximum number of accommodable
members and designations thereof are indicated.

9. A visiting plan generation method as claimed in claim
5,

wherein information on any member contains a mobile
capability of said member and a working capability thereof.

10. A visiting plan generation method as claimed in claim
5,

wherein said cost function contains a coefficient
inherent in each group and/or a threshold inherent therein.

11. A visiting plan generation method as claimed in claim
5,

wherein a value of said cost function represents a distance and/or a time.

12. A visiting plan generation method as claimed in claim 5,

wherein, at the time of new assignment of an unassigned destination and visiting plan re-formation therewith, group selection is made for said unassigned destination, tentative assignment of said unassigned destination, re-formation of a tentative visiting plan, and tentative cost calculation are performed for each group, said unassigned destination is formally assigned to a group having a minimum tentative cost, and said tentative visiting plan is adopted formally.

13. A visiting plan generation method as claimed in claim 12,

wherein, in group selection, at least a group having a minimum cost at the current point of time is selected.

14. A visiting plan generation method as claimed in claim 5,

wherein, in re-assignment of already assigned destinations and visiting plan re-formation therewith, a plurality of groups are selected, said selected plural groups are divided into a group A having a maximum cost and a set of the other groups, already assigned destinations are tentatively unassigned from said group A, tentative visiting plan re-formation and calculation of a tentative cost A are performed for said group A, and tentative assignment of said tentatively unassigned destinations, tentative visiting plan re-formation, and tentative cost calculation are performed for each group

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belonging to said set of the other groups; and

wherein, if a minimum tentative cost B and said tentative cost A are lower than an original cost of said group A, tentative conditions that have caused said tentative cost A and tentative cost B are adopted formally.

15. A visiting plan generation method as claimed in claim 14,

wherein, in selection of a plurality of groups, at least a group having a maximum cost at the current point of time and/or a group having a minimum cost at the current point of time are selected.

16. A visiting plan generation method as claimed in claim 15,

wherein, in variable-member group re-arrangement and visiting plan re-formation therewith, a variable-member group in which the number of members is smaller than the maximum number of accommodable members is selected, unassigned members are selected within a range that group constrains are satisfied, each of said members thus selected is tentatively assigned to said selected variable-member group, and tentative visiting plan re-formation and tentative cost calculation are performed; and

wherein, if a minimum tentative cost is lower than an original cost of said selected variable-member group, tentative conditions that have caused said minimum tentative cost are adopted formally.

17. A visiting plan generation method as claimed in claim 16,

wherein, in variable-group selection, among variable-member groups in which the number of members is smaller than the maximum number of accommodable members, a variable-member group having a maximum absolute value of difference between the number of members and the maximum number of accommodable members is selected.

18. A visiting plan generation method as claimed in claim 5,

wherein, in variable-member group re-arrangement and visiting plan re-formation therewith, a variable-member group is selected, at least one of members of said selected variable-member group is unassigned, unassigned members are selected within a range that group constraints are satisfied, each of said members thus selected is tentatively assigned to said selected variable-member group, and tentative visiting plan re-formation and tentative cost calculation are performed; and

wherein, if a minimum tentative cost is lower than an original cost of said selected variable-member group, tentative conditions that have caused said minimum tentative cost is adopted formally.

19. A visiting plan generation method as claimed in claim 18,

in variable-member group selection, a variable-member group having a maximum cost at the current point of time is selected from all the variable-member groups.

20. A visiting plan generation method as claimed in claim 5,

wherein, in variable-member group re-assignment and visiting plan re-formation, a plurality of variable-member groups are selected, said selected plural variable-member groups are divided into a variable-member group A having a maximum cost and a set of the other variable-member groups, tentative member exchange is made between each variable-member group belonging to said set of the other variable-member groups and said variable-member group A within a range that group constraints are satisfied, tentative visiting plan re-formation and tentative cost calculation are performed for said set of the other variable-member groups, tentative visiting plan re-formation and tentative cost calculation are performed for said variable-member group A, and a tentative cost of said set of the other variable-member groups is compared with a tentative cost of said variable-member group A to select a pair cost corresponding to a higher one; and

wherein, if a minimum value of said pair cost is lower than an original cost of said variable-member group A, i.e., a maximum cost, tentative conditions that have caused said minimum value of said pair cost are adopted formally.

21. A visiting plan generation method as claimed in claim 20,

wherein, in selection of a plurality of variable-member groups, at least a variable-member group having a maximum cost at the current point of time is selected from all the variable-member groups.

22. A visiting plan generation method as claimed in claim 20,

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wherein, in selection of a plurality of variable-member groups, either one of a variable-member group having a maximum cost at the current point of time and a variable-member group having a minimum cost at the current point of time is selected from all the variable-member groups.

23. A visiting plan generation system, comprising:

input means for receiving various kinds of necessary information for visiting plan generation;

state memory means for memorizing a state at a predetermined point of time and an optimum state in preceding visiting plan conditions;

new-assignment means for newly assigning an unassigned destination;

re-assignment means for re-assigning an already assigned destination;

group re-arrangement means for re-arranging groups;

plan re-formation means for re-forming a visiting plan for each group; and

cost calculation means for calculating a visiting plan cost for each group.

24. A visiting plan generation system as claimed in claim 23,

wherein said input means is so structured as to receive at least information on destinations, information on groups, and information on members.